

Applicant: DORI, Dov  
Serial No.: 09/808,781  
Attorney Docket No.: P-7481-US

**Amendments to the Claims:**

The following listing of claims replaces all prior versions and listings of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A computer-implemented method of modeling, the method comprising:

receiving input specifying at least one graphic element of a model diagram, different graphic elements in the diagram including a first graphic element representing a process and a second graphic element representing an object, wherein said model diagram represents one or more functional aspects, one or more structural aspects, and one or more behavioral aspects of a system, and wherein said model diagram includes symbols representing stateful objects associated with states and processes, structural links, procedural links, and control links;

identifying a graphical pattern corresponding to a combination of one or more processes and one or more objects in said model diagram;

based on the received input and said graphical pattern, generating a textual description of the diagrammed model, wherein said textual description is consistent with at least a subset of a natural language; and

upon in response to modification of said diagrammed model, modifying said textual description ~~substantially in real time~~ to reflect the modification of the diagrammed model.

2. (Previously Presented) The method of claim 1, wherein the graphic elements correspond to a notation, modeling objects and processes as independent elements.

Applicant: DORI, Dov  
Serial No.: 09/808,781  
Attorney Docket No.: P-7481-US

3. (Previously Presented) The method of claim 2, wherein the notation comprises a notation in accordance with a system that models objects and processes as independent entities.
4. (Original) The method of claim 1, wherein generating the textual description comprises:  
determining one or more context-free grammar production rules corresponding to the input; and  
generating a context-free grammar expression from the one or more context-free grammar production rules.
5. (Previously Presented) The method of claim 4, wherein the production rules comprise production rules consistent with at least a subset of a natural language.
6. (Original) The method of claim 1, wherein at least a portion of the model diagram and at least a portion of the textual description are displayed simultaneously.
7. (Original) The method of claim 1, wherein the received input comprises receiving user input.
8. (Previously Presented) The method of claim 7, wherein generating the textual description comprises generating the description in real-time response to the received user input.
9. (Original) The method of claim 1, wherein generating the textual description comprises generating in a batch mode.
10. (Original) The method of claim 1, further comprising receiving input specifying a level of detail to depict.

11. (Original) The method of claim 10, further comprising determining a portion of the textual description to display based on the received user input specifying the level of detail.
12. (Previously Presented) The method of claim 1, further comprising translating a label of a graphic element from a subset of said first natural language to a subset of a second natural language.
13. (Previously Presented) The method of claim 12, wherein generating the textual description comprises generating the textual description using production rules of a context-free grammar for the subset of the second natural language.
14. (Currently Amended) The method of claim 1, further comprising using the generated text as input for a generic code generator, able to further receive as input a set of rules for translating the generated text into a specific programming language. ~~to automatically generate software instructions to implement the model.~~
15. (Previously Presented) The method of claim 1, further comprising using the generated textual description to provide a simulation of a modeled system.
16. (Currently Amended) A computer-implemented method of modeling, the method comprising:  
receiving a textual description of a model;  
identifying at least a portion of said textual description as being convertible to a graphical pattern corresponding to a combination of one or more processes and one or more stateful objects of said model;

based on the received textual description and at least said convertible portion, generating a model diagram composed of different graphic elements, the different graphic elements including a first graphic element representing a process and a second graphic element representing an object, wherein said model diagram represents one or more functional aspects, one or more structural aspects, and one or more behavioral aspects of a system, and wherein said model diagram includes symbols representing objects associated with states and processes, structural links, procedural links, and control links; and

~~upon in response to~~ modification of said textual description, modifying said diagrammed model ~~substantially in real time~~ to reflect the modification of the textual description.

17. (Previously Presented) The method of claim 16, wherein the graphic elements correspond to a notation, modeling objects and processes as independent elements.
18. (Previously Presented) The method of claim 17, wherein the notation comprises a notation in accordance with a system that models objects and processes as independent entities.
19. (Original) The method of claim 16, wherein the received textual description comprises a textual description in a context-free grammar.
20. (Previously Presented) The method of claim 19, wherein the context-free grammar comprises a grammar having production rules consistent with at least a subset of a natural language.
21. (Original) The method of claim 20, wherein generating the model comprises parsing the received input in accordance with the production rules.

Applicant: DORI, Dov  
Serial No.: 09/808,781  
Attorney Docket No.: P-7481-US

22. (Original) The method of claim 16, wherein at least a portion of the model diagram and at least a portion of the textual description are displayed simultaneously.
23. (Original) The method of claim 16, wherein the input comprises user input.
24. (Previously Presented) The method of claim 23, wherein generating the model diagram comprises generating the diagram in real-time response to the received user input.
25. (Previously Presented) The method of claim 16, wherein receiving the textual description comprises receiving in a batch mode.
26. (Original) The method of claim 16, further comprising receiving input specifying a level of detail to depict.
27. (Original) The method of claim 26, further comprising determining a portion of the model diagram to display based on the received input specifying the level of detail.
28. (Currently Amended) The method of claim 16, further comprising using the generated text as input for a generic code generator, able to further receive as input a set of rules for translating the generated text into a specific programming language, to ~~automatically generate software instructions to implement the model.~~
29. (Previously Presented) The method of claim 16, further comprising using the received input to provide an animated simulation of a modeled system, wherein dynamics of said modeled system are shown by at least animated flow of control, process execution, object creation, object destruction, and object state modification.

30. (Currently Amended) A method of translating text from a first natural language to a second natural language, the method comprising:
- receiving input specifying a diagram including elements labeled in accordance with a first natural language, the diagram including at least one independent object and at least one independent process, wherein said diagram represents one or more functional aspects, one or more structural aspects, and one or more behavioral aspects of a system, and wherein said diagram includes symbols representing stateful objects associated with states and processes, structural links, procedural links, and control links;
- identifying a graphical pattern corresponding to a combination of one or more processes and one or more objects in said diagram;
- translating the element labels from the first natural language to the second natural language;
- generating text in the second natural language in accordance with a grammar associated with the diagram elements; and
- upon in response to modification of said input diagram, modifying said text in the second natural language ~~substantially in real time~~ to reflect the modification of said input diagram.
31. (Previously Presented) The method of claim 30, wherein the diagram comprises a diagram in accordance with a system that models objects and processes as independent entities.
32. (Previously Presented) The method of claim 30, wherein generating text comprises generating text using a context-free grammar associated with the diagram elements, the context-free grammar being consistent with the syntax of a subset of the second language.

33. (Currently Amended) A computer program product, disposed on a computer readable medium, for modeling, the computer program including instructions for causing a processor to:

receive input specifying at least one graphic element of a model diagram, different graphic elements in the diagram including a first graphic element representing a process and a second graphic element representing an object, wherein said model diagram represents one or more functional aspects, one or more structural aspects, and one or more behavioral aspects of a system, and wherein said model diagram includes symbols representing stateful objects associated with states and processes, structural links, procedural links, and control links;

identify a graphical pattern corresponding to a combination of one or more processes and one or more objects of said model diagram;

based on the received input and said graphical pattern, generate a textual description of the diagrammed model, wherein said textual description is consistent with at least a subset of a natural language; and

~~upon~~ in response to modification of said diagrammed model, modify said textual description ~~substantially in real time~~ to reflect the modification of the diagrammed model.

34. (Currently Amended) A computer program product, disposed on a computer readable medium, for modeling, the computer program including instructions for causing a processor to:

receive a textual description of a model;

identify at least a portion of said textual description as being convertible to a graphical pattern corresponding to a combination of one or more processes and one or more stateful objects of said model; and

based on the received textual description and at least said convertible portion, generate a model diagram composed of different graphic elements, the different graphic elements including a first graphic element representing a process and a second graphic element representing an object, wherein said model diagram represents one or more functional aspects, one or more structural aspects, and one or more behavioral aspects of a system, and wherein said model diagram includes symbols representing objects associated with states and processes, structural links, procedural links, and control links; and

~~upon in response to~~ modification of said textual description, modify said diagrammed model ~~substantially in real time~~ to reflect the modification of the textual description.

35. (Previously Presented) The method of claim 1, comprising:  
automatically generating documentation of the model diagram, said documentation having graphics and text included in at least one file.
36. (Previously Presented) The method of claim 1, comprising:  
allowing a plurality of users to work in real time on said model diagram.
37. (Previously Presented) The method of claim 1, comprising:  
importing at least a portion of said model diagram from another model diagram.
38. (Previously Presented) The method of claim 1, comprising:  
based on said model diagram, enforcing a set of business rules pertaining to a domain.
39. (Previously Presented) The method of claim 1, comprising:  
based on said model diagram, automatically generating at least one diagram in accordance with a modeling language.



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Attorney Docket No.: P-7481-US

40. (Previously Presented) The method of claim 1, comprising:  
based on said model diagram, automatically generating at least one diagram in  
accordance with Unified Modeling Language.